Technical Memorandum
Soil Excavation Optimization

Parcel C Remedial Action
Remedial Units C1, C2, C4, and C5
Hunters Point Naval Shipyard
San Francisco, California

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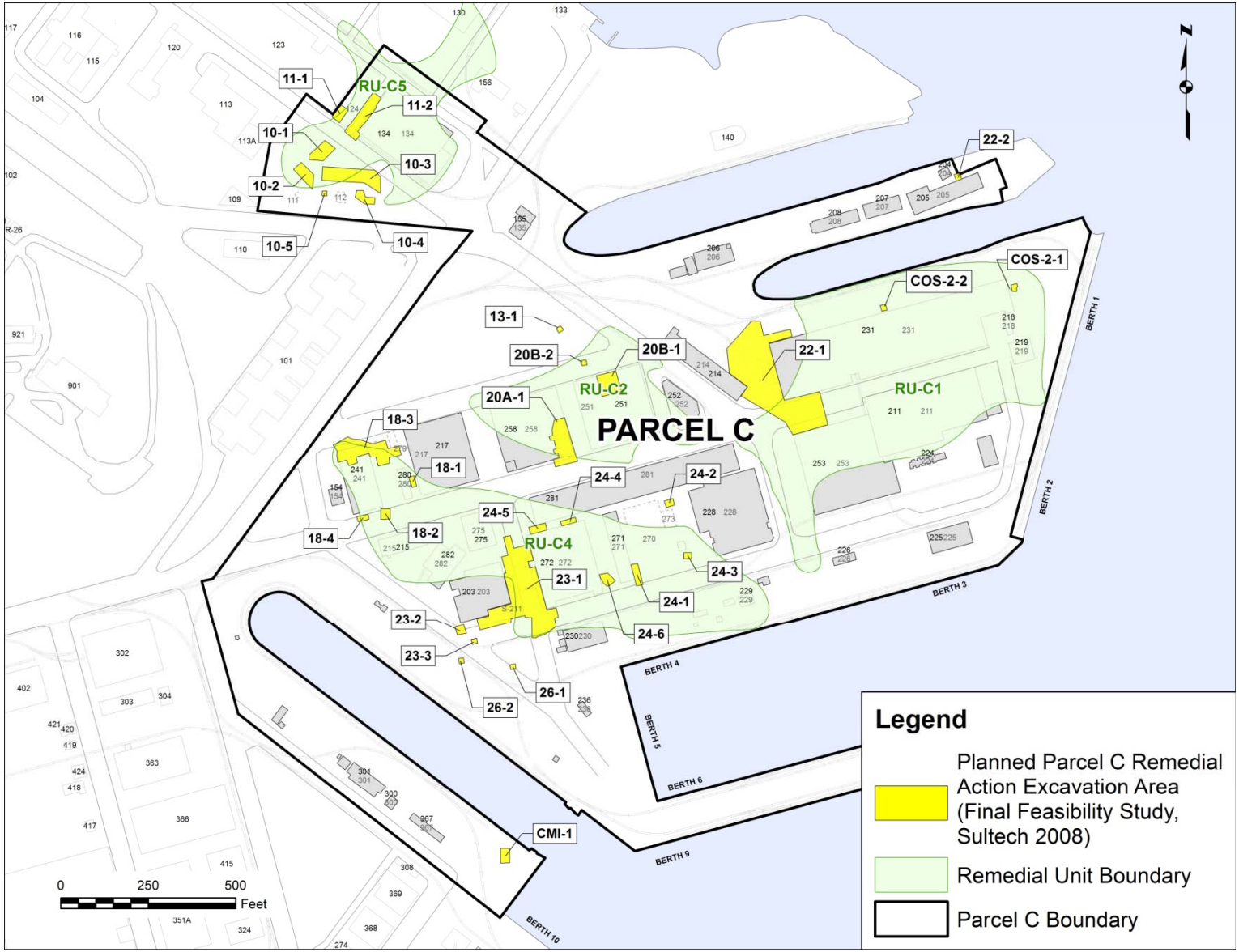
Project Manager
Support Contractor to NAVFAC BRAC PMO
BRAC Program Management Office West

BCT Meeting
March 28, 2013

Parcel C Excavations as presented in FS, ROD, and RD



Tech Memo

The following location types where COCs are present in soil at concentrations exceeding RGs were considered:

- Tier 1 locations: excavation areas where soil concentrations are greater than the RRGs as established in the ROD (Tier 1 action levels).
- Tier 2 locations: excavation areas where soil concentrations are greater than 5 times the RRGs (Tier 2 action levels).
- Tier 3 locations: excavation areas where soil concentrations are greater than 10 times the RRGs (Tier 3 action levels).

Note: Tier action levels apply to metals and PCBs only. The action levels for TPH, VOCs and pesticides are equal to the RRGs in all tiers. Similar tiered approaches have been used in Parcels E and E-2 at HPNS.

Soil Excavation Tech Memo

Meeting March 19th : Action Items

1) Ensure that all 4 of the RUC2 excavations are incorporated into the RUC2 Final Work Plan, using the same rationale as applied to RUC 1, 4 and 5, and if not, issue change pages.

   No change pages needed. Excavations will be conducted per the RAWP.

   Depth of excavation will be determined by confirmation samples collected 1' below depth of previous RG exceedance.

2) Agency comments on RUC1, 4, 5 Draft RAWP and Tech Memo due **3/29**

3) Navy preparing table identifying which excavations may require a change to ROD, if any, and which will be "optimization" of the RD.

4) Navy to provide additional detail in Tech Memo regarding how we came to optimizing excavations and the history of this transition

5) Navy and contractor to work closely with Risk Assessor on revising Tech Memo language and putting together a risk communication strategy

Soil Excavation Tech Memo

6) Navy to provide additional detail regarding what contaminants are left in place once a Tier is applied and why those will be left in place; specifically related to risk related to:

- future land use
- groundwater contamination
- proximity to the bay/migration potential
- manganese left in place

Navy to revise tech memo for the following:

7) indicate that confirmation sampling will follow RAWP/SAP protocol

8) have consistent colors and legends throughout figures

9) focus explanation on risk rather than statistical significance

10) support no further action where removals have been completed

Soil Excavation Tech Memo

Navy to revise tech memo for the following:

11) be consistent in descriptions of changes from RD (no change/reduce depth)

12) add average depth that prior radiologic excavations have been completed

13) remove language in Tech Memo referring to additional analysis beyond the 95%UCL.

Navy to provide:

14) redline/strikeout version of Tech Memo and RAWP

15) Proposal for administratively documenting changes to ROD. Plus consider City's request to apply changes to areas beneath buildings.

16) Navy to consider notifying public at next meeting of any approved changes.

RUC1

Site	Original FS Volume (bcy)	Excavation Optimization Plan	Depth	Original Excavation Volume (bcy)	Optimized Excavation Volume (bcy)	Volume Difference (bcy)	Change to ROD
RU-C1							
22-1	14,568	No change; excavate originally proposed volume.	no change	14,599	14,599	0	No
22-2	141	Tier 2. Excavation is complete. No further remedial action necessary.	*Excavation complete*	141	0	(141)	Yes
COS-2-1	117	No change; excavate originally proposed volume.	no change	117	117	0	No
COS-2-2	90	Data error. No further remedial action necessary.		90	0	(90)	N/A

RUC4

Site	Original FS Volume (bcy)	Excavation Optimization Plan	Depth	Original Recalc Excavation Volume (bcy)	Optimized Excavation Volume (bcy)	Volume Difference (bcy)	Change to ROD
RU-C4							
23-1	10,233	Tier 3 (or Tier 2). Reduce footprint based on 10x RRG for metals, PCB.	*Varies: 10x RRG for metals and PCBs based on deepest known conc*	10,268	1,852	(8,416)	Yes
23-2	259	Excavation is complete. No further remedial action necessary, pending confirmation sample results.	*Confirm removal by verifying depth and location of Tt excavation*	260	0	(260)	No
23-3	89	Excavation is complete. No further remedial action necessary, pending confirmation sample results.	*Confirm removal by verifying depth and location of Tt excavation*	89	0	(89)	No
24-1	453	No change; excavate originally proposed volume.	no change	451	451	0	No
24-2	182	Reduce excavation depth from 10.2 to 2.75 ft bgs based on confirmation sample results.	2.75'	182	50	(132)	No
24-3	142	Tier 2. Excavation is complete. No further remedial action necessary because sample is so close to RRGs.	*Excavation complete*	143	0	(143)	Yes
24-4	215	Reduce footprint based on confirmation sample results.	9'	167	121	(46)	No
24-5	387	Tier 3 (or Tier 2). Reduce footprint based on confirmation sample results.	7'	385	26	(359)	Yes
24-6	384	Reduce excavation depth from 10.2 to 7 ft bgs based on confirmation sample results.	7'	385	262	(123)	No
26-1	79	Excavation is complete. No further remedial action necessary.	*Verify sample is removed - TPH program*	79	0	(79)	No
26-2	89	Reduce excavation depth from 10.9 to 4.75 ft bgs based on confirmation sample results.	4.75'	91	40	(51)	No
CMI-1	435	Reduce excavation depht from 9.4 to 4.25 ft bgs based on confirmation sample results	4.25'	435	192	(243)	No

RUC5

Site	Original FS Volume (bcy)	Excavation Optimization Plan	Depth	Original Excavation Volume (bcy)	Optimized Excavation Volume (bcy)	Volume Difference (bcy)	Change to ROD
RU-C4							
23-1	10,233	Tier 3 (or Tier 2). Reduce footprint based on 10x RRG for metals, PCB.	*Varies: 10x RRG for metals and PCBs based on deepest known conc*	10,268	1,852	(8,416)	Yes
23-2	259	Excavation is complete. No further remedial action necessary, pending confirmation sample results.	*Confirm removal by verifying depth and location of Tt excavation*	260	0	(260)	No
23-3	89	Excavation is complete. No further remedial action necessary, pending confirmation sample results.	*Confirm removal by verifying depth and location of Tt excavation*	89	0	(89)	No
24-1	453	No change; excavate originally proposed volume.	no change	451	451	0	No
24-2	182	Reduce excavation depth from 10.2 to 2.75 ft bgs based on confirmation sample results.	2.75'	182	50	(132)	No
24-3	142	Tier 2. Excavation is complete. No further remedial action necessary because sample is so close to RRGs.	*Excavation complete*	143	0	(143)	Yes
24-4	215	Reduce footprint based on confirmation sample results.	9'	167	121	(46)	No
24-5	387	Tier 3 (or Tier 2). Reduce footprint based on confirmation sample results.	7'	385	26	(359)	Yes
24-6	384	Reduce excavation depth from 10.2 to 7 ft bgs based on confirmation sample results.	7'	385	262	(123)	No
26-1	79	Excavation is complete. No further remedial action necessary.	*Verify sample is removed - TPH program*	79	0	(79)	No
26-2	89	Reduce excavation depth from 10.9 to 4.75 ft bgs based on confirmation sample results.	4.75'	91	40	(51)	No
CMI-1	435	Reduce excavation detph from 9.4 to 4.25 ft bgs based on confirmation sample results	4.25'	435	192	(243)	No

Building 241 Area

Site	Original FS Volume (bcy)	Excavation Optimization Plan	Depth	Original Recalc Excavation Volume (bcy)	Optimized Excavation Volume (bcy)	Volume Difference (bcy)	Change to ROD
Building 241							
18-1	179	Reduce excavation depth from 10.7 to 8 ft bgs based on confirmation sample results.	8'	178	133	(45)	No
18-2	284	Reduce footprint based on confirmation sample results and previous removal actions. Reduce excavation depth from 9.6 to 7.75 bgs based on confirmation sample results.	7.75'	284	80	(204)	No
18-3	2,856	No change; excavate originally proposed volume.	no change	2,868	2,868	0	No
18-4	189	Excavation is complete. No further remedial action necessary.	*Confirm removal by verifying depth of Tt excavation*	189	0	(189)	No
Totals:				42,368	25,746	(16,622)	
			Summary volumes not considering typical overexavation rate of 10-15%.				
			Including over-excavation rate (10%):		28,320	(14,048)	
					Total Volume Reduction associated with ROD Deviation:	(11,645)	

Notes:

bcy - bank cubic yards

bgs - below ground surface

ft - feet

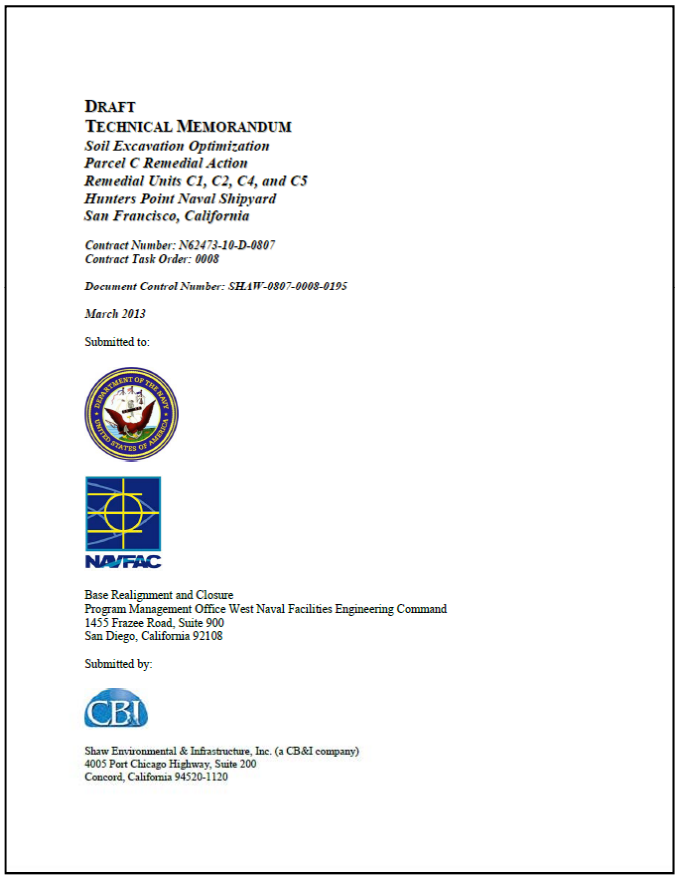
RU - Remedial Unit

Administrative Documentation

- Type of change
  - Nonsignificant or minor change
  - Evaluated based on
    - Scope
    - Performance
    - Cost
- Memo to file

Schedule Update

- Draft Tech Memo issued for review 3/14/2013
- Tech Memo meeting 3/19/2013
- BCT comments on Draft Work Plan 3/29/2013
- Final Work Plan to be issued 5/13/2013
- Field work to begin (May 2013)
  - Based on radiological work completed, excavations will begin in area RU-C5



DRAFT
TECHNICAL MEMORANDUM
Soil Excavation Optimization
Parcel C Remedial Action
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Hunters Point Naval Shipyard
San Francisco, California

Contract Number: N62473-10-D-0807
Contract Task Order: 0008

Document Control Number: SHAW-0807-0008-0195

March 2013

Submitted to:

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CBI

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